

Abstract

A method of and an apparatus for storing changes to file attributes without having to store an additional copy of the file contents. In a system for maintaining and making changes to content for a website, extranet site or intranet site, memory may be allocated as a backing store.

5 Preferably, the contents of the backing store are saved despite a shutdown or power failure.

Information may be stored by the backing store in the form of files, each file including contents and attributes. The content of a file includes the information stored within the file, while the attributes of the file include information relating to the file. When a change is made to the file contents, both the changed version and the version prior to the changes may be stored in the

10 backing store. For each version of the file contents, associated attributes are also stored.

However, when a change is made to the attributes of the file without a change to its contents, the newly changed attributes may be stored in the backing store along with the prior version of the attributes. The newly changed attributes and the prior version of the attributes then share the same version of the file contents. By avoiding having to store multiple versions of the file

15 contents, storage space in the backing store is preserved. A pointer may be provided in the backing store which links both the newly changed attributes and the prior attributes to the same copy of the associated file contents.